DOCUMENT RESUME

ED 444 036 CE 080 626

| | |
|---|---|
| TITLE | National Assessment of Vocational Education (NAVE): Overview of Evaluation Plan. |
| INSTITUTION | National Assessment of Vocational Education (ED), Washington, DC. |
| PUB DATE | 2000-00-00 |
| NOTE | 28p.; For NAVE Design papers, see CE 080 512-516. |
| AVAILABLE FROM | For full text: http://www.ed.gov/offices/OUS/eval/NAVE/evaluation.html. |
| PUB TYPE | Reports - Descriptive (141) |
| EDRS PRICE | MF01/PC02 Plus Postage. |
| DESCRIPTORS | Academic Achievement; *Compliance (Legal); Educational Change; *Educational Legislation; Educational Policy; Federal Legislation; Outcomes of Education; Postsecondary Education; *Program Evaluation; *Research Methodology; Secondary Education; Special Needs Students; *Vocational Education |
| IDENTIFIERS | *Carl D Perkins Vocational Technical Educ Act 1998; *National Assessment of Vocational Education |

ABSTRACT

The Carl D. Perkins Vocational and Technical Education Act as amended in 1998 (Perkins III) requires that a national assessment of vocational education (NAVE) be conducted. Several key policy issues are likely to shape the course of vocational education and of the NAVE: (1) the small federal investment in vocational education relative to overall federal education spending; (2) the focus of education reforms on improving students' academic achievement; and (3) changes in accountability and funding provisions in Perkins III. The NAVE will seek to discover which strategies improve the performance of vocational students, what are the pathways by which sub-baccalaureate students prepare for careers, and whether the policy shift to flexibility and accountability is likely to improve program quality and student outcomes for regular and special needs students. The NAVE study agenda calls for diverse data collection and analysis methods and the study of key issues in both secondary and postsecondary vocational education. Because NAVE results must be reported to Congress by July 2002, the study will reflect the very early efforts made in response to new provisions in Perkins III. (KC)

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ED 444 036

# National Assessment of Vocational Education (NAVE)

## Overview of Evaluation Plan

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# NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION (NAVE)

## OVERVIEW OF EVALUATION PLAN


***ABSTRACT***

The recently amended (1998) Carl Perkins Vocational and Technology Education Act (Perkins III) directs the Secretary of Education to complete an "independent evaluation and assessment of vocational and technical education programs under this Act," and to appoint an independent advisory panel to advise the Department of Education on how to conduct this national assessment of vocational education (NAVE).


Vocational education is a field in transition, prompted by sweeping changes in state and local education priorities. Several key policy issues are likely to shape the course of vocational education, and therefore of the NAVE: (1) the small federal investment in vocational education relative to overall federal education spending, (2) the focus of education reforms on improving students' academic achievement, and (3) changes in accountability and funding provisions in Perkins III. Given the educational and political context in which Perkins III operates, as well as specific legislative changes recently enacted, the NAVE will be guided by several main questions:

**What strategies improve the performance of "vocational students" and how does, or can, vocational education contribute to improving academic and occupational skills, access to postsecondary education, and earnings?**

**What are the pathways by which sub-baccalaureate students prepare for careers, and what is the contribution of workforce reform efforts to improving their training?**

**Is the policy shift from set-asides and legislative prescription to flexibility and accountability likely to improve program quality and student outcomes? How do special populations fare?**

Figure 4

**RESEARCH STRATEGIES TO ADDRESS MAIN POLICY ISSUES**

**Secondary Vocational Education**
- A. Participation, Outcomes, and Impact
- B. Quality
- C. Effectiveness of Promising Strategies

**Postsecondary Occupational Education**
- A. Participation, Pathways, Outcomes, and Impact
- B. Alignment with WIA

**Program Management**
- A. Accountability
- B. Funding

**Other**

Addressing the primary vocational policy issues requires a set of interrelated but distinct studies. The overall research agenda calls for diverse data collection and analysis methods, including: qualitative case studies, national surveys, examination of existing databases, and econometric estimation. While some broad themes are relevant to both secondary and postsecondary vocational education, each also has its own key issues. Finally, given the timeline for implementing Perkins III, and the July 2002 date for reporting NAVE results to Congress, the studies conducted will reflect the very early efforts made in response to specific new provisions in Perkins III.


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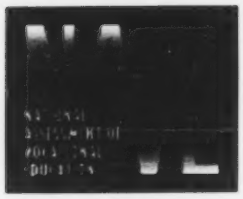


# NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION (NAVE)

## OVERVIEW OF EVALUATION PLAN

## I. INTRODUCTION

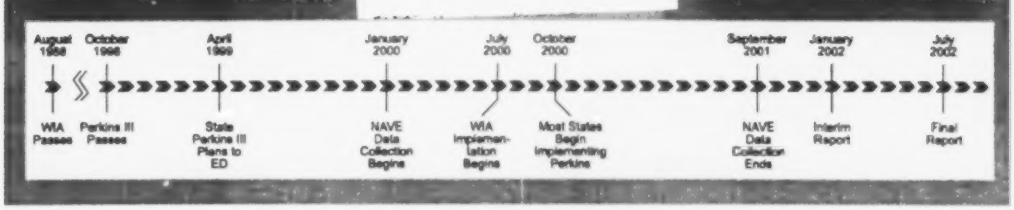
Federal support for vocational education, and for understanding its consequences, has a long history. As was true with previous vocational legislation, the recently amended (1998) Carl Perkins Vocational and Technology Education Act (Perkins III), directs the Secretary of Education to complete an "independent evaluation and assessment of vocational and technical education programs under this Act," in this case, by 2002. As currently designed, this national assessment plan will include multiple components. This paper discusses the main issues that NAVE will address, and the research strategies that will be undertaken to address those issues.

Perkins III (section 114) directs the NAVE to address a wide range of topics, including: (1) implementation of state and local programs; (2) impact of changes in federal funding formulas; (3) teacher quality and teacher supply and demand; (4) student participation in vocational education, (5) academic and employment outcomes; (6) employer involvement and satisfaction with vocation education programs; (7) education technology and distance learning; and (8) the impact of accountability requirements on program performance. Perkins III also directs the Secretary to appoint an Independent Advisory Panel to provide advice on conducting the NAVE and to submit to Congress its own independent analysis of NAVE findings and recommendations (see Appendix A for list of panel members).

Congress has mandated a final NAVE report in 2002 to provide it with information that can guide reauthorization of the Perkins Act in 2003. Of primary interest is how some of the new provisions in the law have been implemented. Unfortunately, many of the important changes in accountability, integration with workforce development, and increased flexibility will have barely begun. Most states have opted for "transitional plans" which in effect, defer implementation of Perkins III provisions until October 2000 (Figure 1). Given the July 2002 date for reporting NAVE results to Congress, data collected during the 2000/2001 school year will reflect the very early efforts made in response to specific new provisions in Perkins III. Conclusions regarding the longer-term prospects for Perkins III will require further research.

Figure 1

NAVE TIMELINE



At the same time, however, Perkins III continues to emphasize several major themes reflected in the 1990 Perkins amendments. These include the integration of academic and vocational education, broadening the focus of vocational education to emphasize industries and careers, and strengthening the links between secondary and postsecondary education through tech-prep and other strategies. The current NAVE will be able to track the extent to which these longer run themes are reflected in school practice, and where possible, what effects they have on outcomes for students.

All of these objectives will be addressed in a series of studies soon to get underway. Two factors are guiding the design of the NAVE agenda: (1) the current policy environment, and (2) the specific research questions that reflect policymaker and practitioner interests.

## A. POLICY CONTEXT FOR THE NAVE

Over the past two decades, three prior national assessments of vocational education have been conducted.[1] Each study sought to focus upon what were thought to be the major issues facing vocational education at the time—funding, special populations, and economic competitiveness of the workforce. The current NAVE must also be sensitive to the dominant educational issues of its time.

Vocational education is a field in transition, prompted by sweeping changes in state and local education priorities. New goals, program offerings, and terminology increasingly characterize vocational education. Federal legislation has encouraged several major changes—from an historic emphasis on entry-level job preparation in semi-skilled occupations to a broader focus on preparation for careers that offer high wages and requires higher level skills; from preparing students to enter the workforce directly after high school to providing students with the choice of pursuing employment or attending college, or as is increasingly the case, doing both simultaneously; and from expecting vocational students to do less well in school than other students, to holding such students to the same academic standards as others. Many of the overarching issues that NAVE will address will consider whether this transition in the field of vocational education is "on track."

Several key policy concerns are likely to shape this assessment:

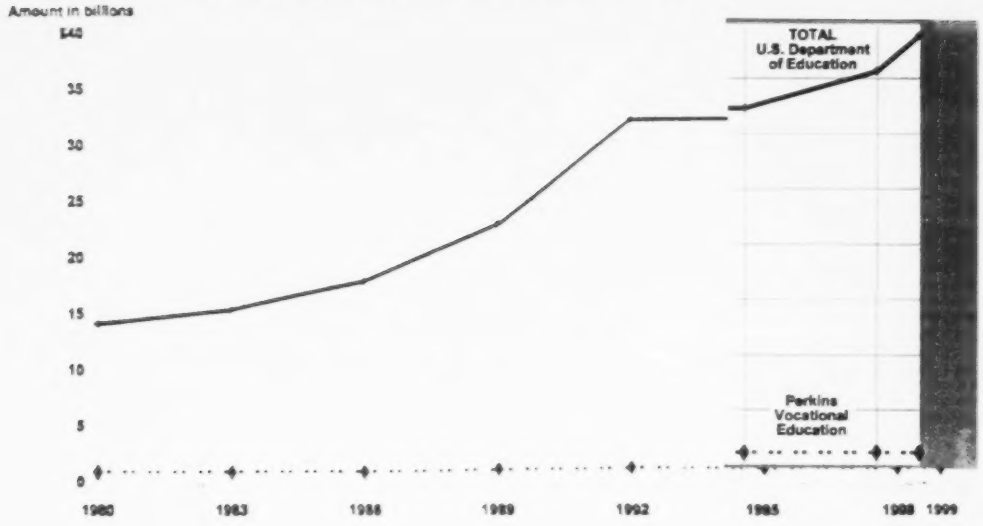
- ***Federal Funding For Vocational Education.*** Federal budgets are widely regarded as a basic indicator of policy priorities. Although overall funding on Department of Education (ED) programs has increased by 177 percent from FY 1980–FY 1999, vocational education funding increased by only 47 percent during the same period (Figure 2).[2] In 1980, funding for vocational education was about 6 percent of total ED expenditures; it has now shrunk to about 3 percent.

[1] 1982, 1989, and 1994.

[2] Figure 2 shows the trends in federal funding for vocational education over the past 20 years, and compares funding for vocational education with overall funding for Department of Education programs.

Figure 2

FUNDING TRENDS IN EDUCATION PROGRAMS

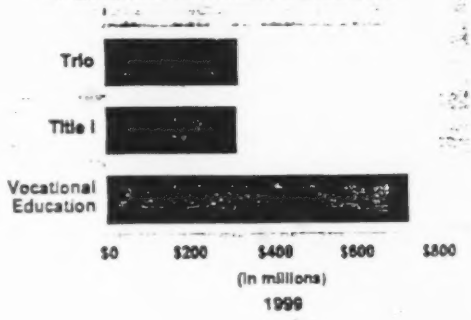



These trends strongly suggest that for nearly two decades vocational education has been increasingly viewed as less worthy of investment than other areas. One reason for this pattern may be that vocational education has historically prepared students for work at a time when priorities have shifted toward academic preparation for college. To the extent that vocational education has changed to address these as well as more traditional objectives, it will be important for NAVE to describe and assess this development.

Although overall federal funding for vocational education has not changed substantially, the Perkins Act remains the largest single source of ED funds directed to high schools. Comparing ED's three major sources of funding for high schools (only a share of the funds from each program is directed at high schools), Perkins Act funds spent to help high school students are more than Title I and TRIO funds combined (Figure 3).[3]

Figure 3

SELECTED EDUCATION DEPARTMENT SPENDING ON HIGH SCHOOLS




[3]Figure 3 compares ED funding of high schools from three major sources—the Perkins Act, Title I of Improving America's Schools Act (IASA), and the TRIO program.



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Given the major role that Perkins funding plays at the high school level relative to other ED programs, it makes sense to think about how this investment contributes to high school improvement generally, and the contribution that vocational education makes, or could make, to such efforts.

- ***Academic Reform.*** There is little question but that the principal focus of recent education reforms has been on improving students' academic achievement and increasing their opportunities to attend college. Federal vocational education policy now places top priority upon ensuring that vocational education students are academically well prepared for both careers and/or success in postsecondary education. But what is, or ought to be, the responsibility of vocational educators for ensuring that students leave high school with both a solid academic foundation as well as technical skills? One major goal of NAVE should be to help Congress better understand what the contribution of vocational education is to achieving these objectives and how this contribution can be increased.

- ***Changes in Perkins III.*** Although Congress did not alter the basic structure of the Perkins Act in the 1998 reauthorization, it did make several important substantive changes. Among these are: (1) increased emphasis on academics; (2) greater flexibility in the use of funds through elimination of major set-asides for gender equity and other rules governing the use of funds; (3) a higher proportion of funds directed to local programs and the establishment of a 10 percent reserve fund; and (4) creation of a "higher stakes" accountability system. At the same time, the Workforce Investment Act of 1998 (WIA) also encouraged greater integration of vocational education and the workforce development system. Implementing these changes will be a major challenge for school districts and postsecondary institutions.

## B. Main Policy Issues

Given the educational and political context in which Perkins III operates, as well as specific legislative changes recently enacted, the NAVE will be guided by several main questions:

1. **What strategies improve the performance of "vocational students" and how does, or can, vocational education contribute to improving academic and occupational skills, access to postsecondary education, and earnings?**

   Standards-based reform is fundamentally altering policies and practices from kindergarten through high school. NAVE will examine the role of standards—both academic and occupational—in vocational education, the effects on students' academic and technical preparation of promising reform strategies, and the role of federal policy, as implemented by states and communities, in facilitating implementation of effective programs of study.

2. **What are the pathways by which sub-baccalaureate students prepare for careers, and what is the contribution of workforce reform efforts to improving their training?**

   In passing Perkins III and the WIA, Congress was concerned that federally supported job training programs operated independently of vocational education. Congress expects that linking Perkins III and WIA together will encourage better integration of vocational education and workforce development policies. Issues to be examined include: (1) the role of

postsecondary vocational in developing state workforce training plans; (2) the importance of unified planning; (3) the early impact on postsecondary institutions (e.g., programs of study, one-stop career centers, accountability) of efforts to align Perkins III and workforce development, and (4) patterns of enrollment and participation in postsecondary occupational education, and their relationship to outcomes and impact.

3. **Is the policy shift from set-asides and legislative prescription to flexibility and accountability likely to improve program quality and student outcomes? How do special populations fare?**

   For the past two decades, federal policy has focused on serving those most at-risk, commonly termed the "special populations." Perkins III represents a major shift in direction—eliminating set-asides for "single parents...," requirements that local funds be prioritized to serve the highest concentrations of special populations, and requirements to coordinate with the Individuals for Disabilities Education Act. In its place is an increased emphasis on accountability, including the requirement that states track the progress of special population groups. Has increased flexibility resulted in changes in educational priorities or practices? Have "at-risk" populations been helped or hurt as a result? Are accountability requirements improving the quality of vocational education for all students?

## II. NAVE RESEARCH AGENDA

Figure 4

**RESEARCH STRATEGIES TO ADDRESS MAIN POLICY ISSUES**

**Secondary Vocational Education**

A. Participation, Outcomes, and Impact
B. Quality
C. Effectiveness of Promising Strategies

**Postsecondary Occupational Education**

A. Participation, Pathways, Outcomes, and Impact
B. Alignment with WIA

**Program Management**

A. Accountability
B. Funding

**Other**

Addressing the primary vocational policy issues requires a set of interrelated but distinct studies. No one study could encompass the broad array of interests and questions. Moreover, the overall research agenda calls for diverse data collection and analysis methods, including: qualitative case studies, national surveys, examination of existing databases, and sophisticated econometric estimation. Finally, while some broad themes are relevant to both secondary and postsecondary vocational education, each also has its own key issues.

For these reasons, the NAVE plans to undertake studies in seven main areas (Figure 4). These are described below, grouped together by major topic: secondary vocational education, postsecondary vocational education, and program management.

## SECONDARY VOCATIONAL EDUCATION

The role of vocational education at the secondary level is evolving. Many policymakers, educators, and parents remain concerned about whether secondary vocational programs serve students' best interests in the long run. Previous studies suggest that completion of a vocational program has a positive effect on employment, at least in the short run, if students do not pursue postsecondary education[4] and if they obtain training-related jobs.[5] However, the earlier research also indicates that vocational education contributes to neither academic achievement nor postsecondary enrollment—the path desired by most students and their parents. Studies undertaken by the last NAVE confirmed that vocational instruction in the early 1990s was still largely traditional, with little focus on academic skills.[6] These concerns about the quality and outcomes of vocational education have contributed to the decline in participation of high school students since the 1980s. These same concerns have raised the stakes for gaining a clearer understanding of: (1) how participation in and impacts of secondary vocational education have changed since the earlier studies, (2) the extent to which secondary vocational education now reflects high quality practices, and (3) whether promising career education reform strategies are proving to be effective.

### A. PARTICIPATION AND OUTCOMES

Perhaps the most important issue for vocational education, and for the current NAVE, is who participates at the secondary level and how well they fare in school and beyond. At least through the early 1990s, vocational education had come to be stigmatized as a high school "track" for students with poor academic capabilities, special needs, or behavioral problems.[7] This result alone would not be problematic, but vocational programs also appeared to contribute little "value added" to student outcomes. In the current climate, with increasing federal emphasis on program performance and on high academic achievement for all students, vocational education has much to prove.

Over the last five years, however, career education has been given new prominence by several initiatives targeted to students other than those traditionally served by vocational programs. In addition, some states and districts have worked to strengthen vocational courses.[8] Whether any of these efforts have successfully broadened the appeal and improved the impact of occupational programs needs careful examination.

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[4]Ferran Mane, *Trends in the Payoff to Academic and Occupational-Specific Skills: The Short and Medium Run Returns to Academic and Vocational High School Courses for Non-College Bound Students* (Working paper # 98-07) (Ithaca, NY: Center for Advanced Human Resource Studies, Cornell University).

[5]National Assessment of Vocational Education, *Final Report to Congress*, Volume I, July 1994.

[6]Ibid.

[7]Ibid.

[8]Alan Hershey, Marsha Silverberg, Joshua Haimson, Paula Hudis, and Russell Jackson, *Expanding Options for Students: Report to Congress on the National Evaluation of School-to-Work Implementation* (Princeton, NJ: Mathematica Policy Research, October 1998).

Figure 5

SECONDARY VOCATIONAL PARTICIPATION AND IMPACTS

| Research Issues | Study Plans |
|---|---|
| • Enrollment Trends | • NAEP Transcript Study |
| • Special Populations Participation | • Analyses using NELS, HS&B, NLSY, and NAEP |
| • Course Taking | • NELS and HS&B Academic Achievement Comparison |
| • Academic Achievement | • Analyses of state data |
| • Postsecondary Enrollment | |
| • Labor Market Benefits | |

➡ ***Who participates in secondary vocational education?***

Updating the enrollment trends and characteristics of students served by high school-level vocational programs is of interest, particularly in light of growing reports from state directors that enrollment patterns have been changing. Congress and most educators, remain committed to providing students from special populations access to vocational education. However, many believe the quality of vocational programs is unlikely to improve without attracting a broader segment of the student population; or that the participation of a more diverse set of students will signal that quality improvements are being made. Several questions must be addressed:

- Who enrolls in secondary vocational education and to what extent has this picture changed over the 1990s? How do the characteristics of vocational students compare with those of nonvocational students?
- Does enrollment vary by high school setting and vocational program area?
- Has the course taking (academic and technical) of vocational students changed?

***PLANNED STUDIES***

***Descriptive statistics from national data.*** *NAEP transcript data (1998) provide the most recent evidence of secondary vocational participation nationwide. Using NAEP and student transcripts from other data sources, trends in student characteristics, course taking and achievement will be documented.*

➡ ***What is the impact of vocational education at the secondary level?***

As a result of changing objectives and educational priorities, it is important to understand the contribution of secondary vocational education to traditional objectives (technical competency, labor market outcomes, and general employability skills) but also to academic achievement and postsecondary enrollment. Among the research issues are

- To what extent does vocational education contribute to students' academic achievement and chances of attending and succeeding in college?
- What effect does secondary vocational education have on students' technical preparation for work, employability skills, and ability to meet employers' expectations?
- What is the impact on wages and earnings? In the short run? In the longer run? For noncollege-bound students? College-bound students?
- How do these outcomes vary for different groups of students, particularly students from "special populations?"

***PLANNED STUDIES***

***Analyses of national and state databases:*** *NAVE will use several national databases (HS&B, NELS, NLSY, and NAEP) to (1) document trends in student achievement, earnings and other outcomes; and (2) assess the effects of vocational education (on average and for different programs of study and student populations).*

*NAVE will also explore possible use of state level data systems to provide information on students' technical competencies and employability skills, as well as employer satisfaction with vocational students.*

## B. Quality of Secondary School Vocational Education

For nearly a decade, federal policy has attempted to improve the quality of vocational programs by strengthening the connection between vocational education and mainstream educational objectives at the high school level. These vocational improvements are intended to keep pace with and complement other reform efforts in high schools. States and local districts have been raising the academic coursework and skills required for graduation, making high academic achievement the paramount marker of a school's success. While other measures of school performance are also important (e.g., placement into higher education or career-oriented employment, reductions in drop-out rates, technical competency), efforts to increase academic attainment are likely to continue as a focus for school improvement. A major policy issue facing vocational education, then, is how it can support this central mission for high schools.

The "quality" of vocational education is clearly critical to this objective. Perkins III builds on prior legislation in emphasizing program improvement. While it may be too early to fully judge the educational system's response to Perkins III, Congress will certainly be interested in the

extent to which actual practice is consistent with legislative and other views of what constitutes "effective" vocational programs.

Figure 6

QUALITY OF SECONDARY VOCATIONAL EDUCATION

| Research Issues | Study Plans |
|---|---|
| • Strategies for Academic Improvement | • Large Scale In-depth Case Studies |
| • Prevalence and Intensity of Basic Reform Strategies | • National Vocational Teacher Survey |
| • Contribution to Overall Education Reform | • Analyses of Student Surveys |
| • Teacher Preparation and Qualifications | • Analyses of SASS and PRAXIS Results |
| | • Analysis of National Employer Survey |

➡ ***How can schools improve the academic performance of vocational students and what, if anything, is the relationship between vocational education and those improvement efforts?***

Federal vocational education policy now places priority on ensuring that secondary vocational education students are academically well prepared for careers and success in postsecondary education. For some districts and schools, meeting these objectives requires substantial changes, including new policies or requirements, shifts in instructional methods, or modifications to course content; some schools have already undertaken these reforms. While Perkins III provides guidance on program improvement strategies, identifying the approaches used by schools that have actually raised the academic (and technical) competence of vocational students will be of great benefit to both policymakers and practitioners. Several critical questions need to be addressed, such as

- Do high schools that have succeeded in improving vocational students' achievement organize vocational education differently than do schools that have been less successful?
- What vocational education practices and approaches appear most promising in promoting academic achievement and technical competence?
- What is the relationship between vocational education improvement and school reforms underway in many states and local communities?
- Does federal vocational education policy, as implemented by states and districts, facilitate or impede implementation of effective programs of study at the secondary level?

**PLANNED STUDY**

***Comparative Case Studies of Schools, Districts, and States:*** *In-depth case studies will document and contrast state and local policy and school practice, and how they might contribute to student outcomes. Through intensive site visits, the case studies will obtain descriptive information about the extent and quality of vocational programs, state and district efforts to support and improve the programs, and the linkages between these efforts and schools reform and workforce development initiatives. Overall employer satisfaction with graduates of vocational programs will also be gauged with data from an ongoing National Employer Survey.*

➨ ***What is the quality of vocational education and to what extent are federal strategies for improving vocational education quality reflected in actual classroom practice?***

Perkins III continues to emphasize several basic reform strategies, the genesis of which was in Perkins II; e.g., integrating academic and vocational education, linking secondary and postsecondary vocational programs, and broadening vocational curriculum beyond its traditional emphasis on entry-level job preparation. It is therefore important to examine whether nearly a decade of federal efforts to improve the quality of programs have found their way into teaching approaches and classroom organization. This examination will be guided by several research questions, such as

- Are states and communities making progress in implementing key reform strategies emphasized in Perkins III? What other approaches reflect quality in vocational education?
- To what extent has professional development been used to support these strategies? What kind of preparation and qualifications do vocational teachers have that will help them make these improvements?
- How does the quality of vocational instruction and teaching vary among different institutions (comprehensive high schools, vocational high schools, and area vocational schools), different communities, or the demographic characteristics of students? What factors affect the depth or quality of vocational education?
- What are the barriers to improving the quality of vocational practice?

**PLANNED STUDIES**

*Several approaches will be used to measure the prevalence of vocational improvement strategies.*

***Teacher Survey and Other Teacher Data**: In the year 2000, the NAVE will survey a nationally representative sample of vocational teachers to collect information on curriculum and instructional methods. Information on teacher preparation and qualifications will come from the Schools and Staffing Survey (SASS) and from an analysis of PRAXIS test score results (used for teacher certification in many states).*

***Student Survey:** Analyses of existing student surveys will help identify the frequency of certain practices and the extent to which they are becoming more common for vocational and other students: (1) survey of seniors in eight states in 1996, 1998, and 2000 (Mathematica), (2) National Longitudinal Survey of Youth–97.*

***Case Studies:** Comparative case studies will provide data on the quality of practice, barriers to improvement, and use of professional development. A significant part of the case studies will be a focused examination of selected vocational teacher instruction, including classroom observation and a review of lesson plans, competency tests, planned projects, and student work as concrete evidence of instructional practice.*

## C. Effectiveness of Promising Vocational Education Strategies

In recent years, a variety of programs and reforms have been introduced to improve the outcomes of secondary vocational students. Some approaches have been narrowly conceived (making minor adjustments to a small set of courses or activities) while others involve broader curriculum and institutional changes. Many of these reform models and practices have become popular, expanding to more schools or becoming institutionalized in state policy. Some have been supported with federal grants.

Until recently, however, few studies have been conducted of sufficient size and rigor to provide evidence on how well and why these reforms work. Schools have to a large extent relied on limited information that such interventions as Tech-Prep, career academies, career clusters, and High Schools that Work are effective in improving student performance. Now that these and other reforms have been in place for some time, it is reasonable for policymakers and educators to seek answers to the following questions:

Figure 7

## EFFECTIVENESS OF PROMISING PRACTICES

| Research Issues | Study Plans |
|---|---|
| • Impact of Promising Interventions | • Career Academies Evaluation |
| • Key Factors of Successful Programs | • Longitudinal and Comparative Study of HSTW |
| | • Comparison Group Study of Tech-Prep Graduates |

➡ ***Do these strategies, when well implemented, improve student outcomes?***

Although developers and advocates of particular reform models have long cited student success, in fact there is little concrete evidence of the programs' positive impacts. Studies found that implementation of these initiatives has been uneven, which has in some cases stymied efforts to conduct large-scale evaluations of effectiveness. With longer experience, however, examples of outstanding implementation have emerged that can be used as test cases. Of particular interest are comprehensive program models that can be applied to either vocational students or as part of whole-school reform. Research on these models should address the following questions:

- To what extent do these promising interventions make a difference in key student outcomes: academic achievement, technical competence, postsecondary enrollment, or employment?
- What other outcomes are associated with the new strategies (e.g., technical literacy, work readiness, employer satisfaction)?
- Are there differences in impacts for different groups of students (defined, for example, by demographics, socioeconomic status, skill level, or occupational interest)?

➡ ***What specific elements do approaches that seem to work have in common?***

While knowing which programs or reforms make a difference in student outcomes is important, so is understanding the elements that make some initiatives successful. For policy and technical assistance purposes, it is critical to determine whether key outcomes result primarily from, for example, innovative instructional techniques, changes in administrative structures, or simply raising core requirements. Looking across all of the studies may provide answers to the following key questions:

- Which features of reform are essential to producing positive outcomes?
- Do the importance of these features vary across school settings?

**PLANNED STUDIES**

***Evaluations of Promising Programs and Practices:*** *The NAVE will draw primarily on studies already underway to assess the impacts of promising interventions. These studies may include but not be limited to evaluations of*

***Career Academies****: a random assignment evaluation conducted by MDRC;*

***High Schools That Work****: a longitudinal and comparative study of school-wide reform being conducted by MPR Associates;*

***Tech-Prep****: a matched comparison group study conducted by NCRVE;*

***Career Magnet High Schools****: possible extension of this random assignment evaluation to assess postsecondary and employment outcomes; and*

***Other****: NAVE may commission shorter investigations of particular, innovative state or local practices that have the potential to improve vocational student outcomes (e.g., technology education curriculum, high stakes end-of-course exams in North Carolina and Oklahoma that measure student competencies, etc.).*

## POSTSECONDARY OCCUPATIONAL EDUCATION

Vocational education is both a high school and postsecondary program, although Perkins III, as written, seems primarily focused on high schools. Research has shown that there are significant differences between students in high school and in college with respect to the reasons they enroll in vocational courses as well as in overall enrollment trends. Moreover, the primary institutions that deliver vocational training—high schools and community colleges—are fundamentally different. Nonetheless, Perkins III makes few distinctions between high schools and colleges with respect to federal objectives, program strategies, or accountability requirements.

Two issues are quite distinctive about postsecondary occupational education and will receive substantial attention under the NAVE. Growing evidence on participation and outcomes suggests that vocational education at this level is beneficial. Postsecondary vocational education also has direct implications for workforce development.

### A. PARTICIPATION AND OUTCOMES

In contrast to vocational education at the secondary level, occupational program enrollments at the postsecondary level continue to grow at a rate in keeping with the sub-baccalaureate level more generally. In addition, available evidence clearly establishes a shift toward enrollment of older students. Such a shift in the demographics potentially signals a diversity of roles if not a changing role for occupational education at the postsecondary level—which may have implications for federal policy.

Figure 8

**POSTSECONDARY PARTICIPATION AND OUTCOMES**

| Research Issues | Study Plans |
|---|---|
| • Enrollment Trends—Traditional and Nontraditional Students | • Descriptive Statistics from NPSAS, NHES, and NELS |
| • Reasons for Participation | • Analyses using HS&B, NELS, SIPP, and BPS |
| • Importance of Degree Completion | |
| • Labor Market Returns—Completers and Noncompleters | |

The economic benefits of postsecondary occupational education are a key measure of the importance and impact of occupational programs. Most analyses in the literature find a significant return to an associate's degree. However, there are two caveats: first, there is evidence to suggest that the benefits are uneven;[9] and second, very few students complete an associate's degree.[10] NAVE will examine both the participation and benefits of postsecondary occupational education. In addition to the benefits for those who complete a degree, NAVE will examine the benefits of occupational education by field, for those who do not earn degrees, and for particular sub-groups of students.

➡ ***Who participates in postsecondary occupational education and why?***

Knowing the characteristics of those who enroll, and how enrollments are changing provides an important context for studying postsecondary occupational education. Of growing importance is an older student population that pursues more nontraditional pathways. The key questions to be addressed are:

- Who enrolls in postsecondary occupational education and how has this pattern changed? How do the characteristics of those who pursue occupational education compare with those in nonoccupational programs at the sub-baccalaureate level?
- In what types of institutions do postsecondary occupational students enroll?
- What are the occupational enrollments by program area? Have enrollments by program area changed over time? Are patterns of participation in nontraditional programs changing? How important is "not-for-credit" course taking?
- Has there been a shift in the timing of when postsecondary occupational students enroll?
- What are the educational goals of postsecondary occupational students? Does "reason for enrollment" vary by student characteristics?

***PLANNED STUDIES***

***Descriptive Statistics from National Data:*** *Enrollment patterns and trends by student characteristics will be presented using NPSAS (for credit course taking), NHES (inclusive of not-for-credit course taking), and* Vocational Education in the United States: Toward the Year 2000. *It may be possible to also use a survey of community college students planned by AACC-ACT to present evidence on student characteristics and stated goals for a broader student group (inclusive of those who take not-for-credit courses). Emphasis on special populations participation will be highlighted.*

[9]Not all fields of study lead to significant positive rates of return. See W. Norton Grubb, *Learning and Earning in the Middle: The Economic Benefits of Sub-baccalaureate Education* (New York: Teachers College).

[10]Based on the HS&B sophomore cohort, of all students who enroll in a 2-year college, about 16 percent attain an associate's degree. In contrast, nearly 60 percent of those who enroll in a 4-year college complete at least a bachelor's degree. Thomas J. Kane and Cecilia Elena Rouse, "The Community College: Educating Students at the Margin Between College and Work," *Journal of Economic Perspectives* (Winter 1999): 63–84.

➡ ***What is the contribution of occupational education at the postsecondary level?***

The increasing prevalence of degree noncompletion suggests the need to both understand the trends in and to more fully document the contribution of postsecondary occupational education to wages and earnings beyond simply looking at those who attain a degree.

- How important is degree completion compared with skill acquisition (i.e., are alternative measures, such as industry-generated credentials, more beneficial in the labor market than traditional measures?) Are degrees less beneficial and thus less important in some fields?
- What is the contribution of postsecondary occupational education to wages and earnings?
- Does the impact vary by student characteristics, course taking, or field of study?

***PLANNED STUDIES***

***Analyses of National (and State) Databases:*** *Several data sets will be used to measure the benefits of postsecondary occupational education.*

***Rate of Return Studies****: Short and longer-term rates of returns will be calculated for both degree completers and noncompleters using national data sets such as HS&B, NELS, and BPS. The "value added" contribution of occupational programs will be calculated using HS&B. SIPP (and possibly state data) will be used to calculate rates of return by field of study.*

***Studies of Other Benefits****: NAVE will potentially make use of state-level data for information on technical competencies of, employability skills of, and employer satisfaction with postsecondary occupational students.*

## B. POSTSECONDARY OCCUPATIONAL EDUCATION AND ITS ALIGNMENT WITH WIA

A major issue at the postsecondary level is coordinating occupational programs with the workforce development system. When Congress enacted Perkins III and the WIA, it believed that a plethora of job training programs created excessive administrative burden upon states and discouraged access to services. Therefore, Congress is likely to be particularly interested in the relationship between Perkins and the WIA.

Workforce development is likely to be affected not only by the institutional alignment of Perkins and WIA, but also by the extent to which students complete their training. Although there are still many occupations that require only minimal training and lower-level education, occupations requiring at least an associate's degree are projected to grow faster and with larger projected numerical increases than those requiring less education or training.[11] Despite (or perhaps as a consequence of) increased enrollments in postsecondary education, degree completion rates are

[11]George T. Silvestri, "Occupational Employment Projections to 2006," *Monthly Labor Review* (November 1997): 58–83.

low and are decreasing at the sub-baccalaureate level.[12] Of particular concern is the disproportionately high and growing rate of postsecondary dropping out among "disadvantaged students" (such as students of lower socioeconomic status, minority students, and those with lower high school grades). Given the diversity of the students who attend postsecondary institutions, the explanation for the comparatively low completion rates is unclear and more than likely many-layered. The NAVE intends to shed light on this issue by better understanding educational pathways and their implications for workforce development.

Figure 9

**POSTSECONDARY OCCUPATIONAL EDUCATION**
***Quality and Alignment with WIA***

| Research Issues | Study Plans |
|---|---|
| • Program Quality | • Descriptive Statistics from NSOPF |
| • Impact of Workforce Systems on Postsecondary Occupational Education | • Analyses using IPEDS and BLS Labor Market Data |
| • Educational Pathways | • Case studies - Postsecondary Occupational Education and Workforce Development Interaction |
| | • Analyses using HS&B, NELS, and BPS |

➡ ***What role does postsecondary occupational education play in development of state and local workforce development strategies?***

The 1998 WIA presents opportunities to integrate occupational education with workforce investment systems (through the optional use of state-unified plans of WIA and Perkins and the provision of workforce development services, through one-stop career centers, at postsecondary providers). Several basic questions need to be addressed:

- What is the relationship between local workforce boards and postsecondary occupational programs? To what extent do local workforce boards impact postsecondary occupational programs?
- What is the interaction/relationship between postsecondary institutions and one-stops? Are one-stops used to integrate postsecondary occupational education and other workforce training programs?

[12]D. Boesel and E. Fredland, *Is There Too Much Emphasis on Getting a College Degree?* (Washington, DC: National Library of Education, June 1998).

**PLANNED STUDY**

***Case Studies of Postsecondary Institutions**: In-depth case studies will be undertaken to examine the role played by postsecondary institutions in development of a coherent state or local approach to workforce development. A major objective will be to examine the early response of community colleges (primarily) to the WIA. The study will focus on the implications that efforts to integrate workforce development strategies have on occupational programs and institutional relations with area business.*

➡ ***What is the quality of postsecondary occupational programs (as measured by available indicators)?***

Several dimensions of program quality are the: (1) nature of programs offered (as measured by faculty quality and responsiveness to labor market demand); (2) "the program of study" students actually pursue;[13] and (3) results (as measured by employer satisfaction). Relevant research questions include

- What are the qualifications of occupational faculty (compared to past/academic 2-yr. faculty)? To what extent are postsecondary occupational faculty involved in professional development activities and of what type?
- Are the occupational programs offered related to local labor market needs, and do they change adequately in response to local labor market needs (e.g., do enrollment trends coincide with anticipated labor market demand)?
- What is the projected level of education needed for mid-level occupations, and do students attain the level of education consistent with projected labor market requirements? Do educational requirements vary by occupational field or by geographical region?
- Are employers satisfied with postsecondary occupational education? To what extent are they involved in postsecondary occupational programs (e.g., prevalence of co-ops, involvement on advisory boards, use of postsecondary institutions in hiring practices etc.)? Are students satisfied with postsecondary occupational education?
- Now that states are no longer required to set aside funds for a sex equity coordinator or special populations, how are these issues addressed?
- What is the typical postsecondary occupational education pathway? How efficiently do occupational students progress toward goal completion (i.e., are course-taking patterns coherent and/or of a meaningful quantity or are students simply "milling around")? What are the persistence patterns of occupational students?
- As measured by degree/certificate attainment or critical number of courses, are completion rates of occupational students commensurate with those of non-occupational students at the sub-baccalaureate level? Do completion rates vary by student characteristics (old versus young; by goal)?

[13] That is, what courses are students taking or combining, and what is their progress?

- What are the factors that contribute to longer persistence and higher completion rates? How is persistence and completion affected by differences in student goals and pathways?

***PLANNED STUDIES***

***Analyses of National (and State) Databases.*** *A number of analyses using existing data sets will explore the quality of postsecondary occupational education.*

***Faculty Characteristics:*** *Using the National Survey of Postsecondary Faculty, descriptive statistics of faculty qualifications and professional development activities for occupational faculty will be documented (in comparison to other 2-year faculty).*

***Labor Market Trends:*** *The NAVE will make use of IPEDS and BLS employment data to track the correspondence between fields of enrollment and degree completion and labor market trends.*

***Satisfaction Measures:*** *NELS, BPS, National Employer Survey, and (possibly) state data all solicit information about either student or employer satisfaction with occupational training.*

***Studies of Educational Pathways:*** *Analyses (using BPS, NELS, HS&B, and B&B) will investigate such issues as persistence, student pathways through postsecondary occupational education including efficiency of course taking, and completion.*

***Case Studies:*** *Interviews with state and college officials will examine Perkins III changes, such as elimination of set-asides and the requirement for a sex equity coordinator.*

## PROGRAM MANAGEMENT

Federal vocational legislation has for some time used funding and accountability provisions to achieve specific policy goals. Perkins III is no exception. Perhaps the most significant changes in the new legislation involve these program management tools. Understanding how the new provisions are implemented, and the consequences of them, will be an important issue for Congress and for the NAVE.

### A. ACCOUNTABILITY

Increased accountability is a major component of Perkins III. While states have been expected to gather information on student outcomes since 1990, few states have been able to consistently and systematically do so. The 1998 Act raises the requirements for state reporting of student outcome data, and the potential rewards and consequences for states that can and cannot do so.

Perkins III requires each state to develop a system of measurements and to establish expected levels of performance in four categories:

1. Student attainment of academic, vocational, and technical skill proficiencies.
2. Completion of a secondary or postsecondary degree or credential.
3. Placement and retention in postsecondary education, advanced training, employment or the military.
4. Participation and completion of programs that lead to nontraditional employment.

In addition, each state is required to report on the progress of special populations with respect to each of these categories.

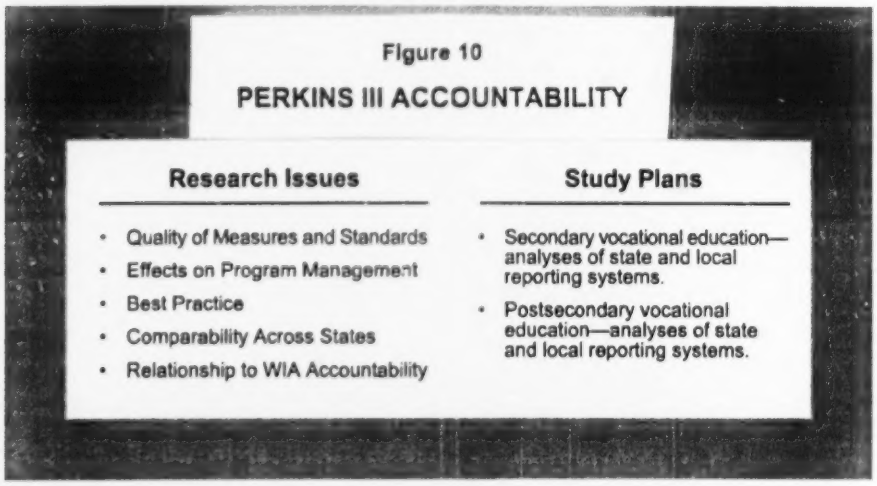
Figure 10
PERKINS III ACCOUNTABILITY
Research Issues
• Quality of Measures and Standards
• Effects on Program Management
• Best Practice
• Comparability Across States
• Relationship to WIA Accountability
Study Plans
• Secondary vocational education—analyses of state and local reporting systems.
• Postsecondary vocational education—analyses of state and local reporting systems.

The major changes in Perkins III accountability have less to do with the types of measures that are required than they do with how performance data, once collected, is to be used. Perkins III requires states to negotiate quantifiable levels of performance[14] with the Department of Education and to report yearly to the Secretary on progress made in meeting these standards. Moreover, the Secretary is to make this information available publicly and to compile state-by state comparisons. Finally, Perkins III raises the potential stakes associated with performance. Failure to meet state-level performance standards could eventually result in loss of Perkins funds. As a reward, however, section 503 of the WIA provides incentive grants to states that exceed performance levels under the Perkins Act, Adult Education and Family Literacy Act, and WIA Title I.

Given the significance of these provisions, NAVE intends to address two main issues regarding accountability:

➡ ***Have states, school systems and colleges developed appropriate measures, standards, and data-gathering systems?***

Studies undertaken in the early 1990s of initial efforts to implement Perkins II accountability requirements raised an important concern that remains relevant today. States were generally able to meet (or exceed) legislative requirements, but the quality of their systems was uneven. A more recent article suggests that "states have made dramatic progress toward meaningful accountability systems," perhaps spurred by the realization that accountability is not a passing fad.[15] Anecdotal information indicates that Perkins III accountability requirements have been taken much more seriously by federal and state officials than was the case under the previous Act. However, several critical questions need to be addressed:

- Are data systems in place to produce reliable information about student performance?
- Are local entities in a state using similar measures and assessing outcomes for the same population of students?
- Have challenging, yet realistic, standards of performance been established?
- Why have some states made greater progress in developing accountability systems for vocational education than others?
- To what extent are states and local entities able to integrate WIA and Perkins performance accountability requirements?

➡ ***How are Perkins performance report results used to manage and improve programs?***

In addition to highlighting data quality concerns, the earlier accountability studies of Perkins III also questioned the utility of the data collected. Local educators reported seeing little value in the information they were asked to gather and report. They therefore failed to use the data as intended for program improvement, providing even less incentive for them to ensure high data quality. Given this history, it will be important to examine several questions about the impact of the new requirements:

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[14]States can renegotiate levels of performance prior to the third program year covered by the state plan. Timelines for the NAVE report will allow it to describe any changes in standards that may occur, but not the resulting outcomes.
[15]Mikala Rahn and Patricia Holmes, "Accountability Systems: Performance Standards and Assessment," *NCRVE Centerpoint* (March 1999).

- Are states and communities using the data gathered to manage and improve their programs (i.e., are one-stop clients given access to this information)? Have accountability requirements resulted in any unintended effects?
- Are the incentive payment provisions credible?
- Can state reported performance data be aggregated to produce a national profile? Can it be used to compare state performance?

***Planned Studies***

*NAVE will examine accountability practices at both secondary and postsecondary levels through:*

- *Surveys of state directors.*
- *Review of state reported performance data.*
- *In-depth case studies of state and local accountability practices.*

## B. FUNDING ISSUES

It has been frequently observed that federal policy is a "blunt instrument" for change. However, nowhere is the impact of federal legislation more direct and immediate than the rules governing allocation of funds. The Congress that enacted Perkins III was guided by two major principles regarding funds (1) "drive" more money to local grantees, and (2) provide greater flexibility regarding the use of funds.

Figure 11

**PERKINS III FUNDING ISSUES**

| Research Issues | Study Plans |
|---|---|
| • Changes in Local Grants as a Result of Legislative Changes | • Secondary and Postsecondary State Director Surveys |
| • Effects of Eliminating Set-asides for Special Populations | • Secondary and Postsecondary Case Studies |
| • Secondary/Postsecondary Split | |
| • Use of Perkins Funds at the State and Local Level | |

Toward these goals, the Act (1) eliminated a 10.5 percent set-aside for single parents and displaced homemakers, enabling Congress to direct that 85 percent (up from 75 percent) of funds should go to local programs; (2) created a 10 percent reserve fund which may be distributed outside of the intra-state formula; (3) eliminated the requirement for a state sex equity coordinator while mandating that $60–150,000 of state leadership funds be used for sex equity services; (4) eliminated rules regarding prioritizing local funds to serve programs with the highest concentration of special populations; and (5) changed the secondary school intra-state formula to simplify but not significantly alter funding allocations. Also relevant was the elimination of an 8 percent set-aside for school programs as Congress replaced the Job Training Partnership Act with WIA. NAVE will examine both the allocation and use of funds under the new Perkins provisions, including:

➡ ***To what extent have the new provisions affected how funds are allocated?***

- How have changes in the intra-state formula, and reserve fund, altered the amount and distribution of funds at the local level?
- Have states changed the allocation of funds between secondary and postsecondary education?

➡ ***How has the use of funds changed, if at all?***

- What has been the effect of eliminating set-asides and other provisions for special
- populations?
- How do states use "state leadership" funds?
- What priorities are emphasized by local education agencies and postsecondary institutions in their use of Perkins funds? To what extent does the use of funds support priorities in Perkins III?

***Planned Studies***

*Surveys of state directors (secondary and postsecondary)*

*In-depth case studies of state and local priorities.*

## OTHER MANDATED ISSUES

Congress mandated an assessment covering a broad range of issues. The preceding discussion addressed a general approach to nearly all of the topics in the congressional mandate—as well as some others. Two topics not addressed, however, are (1) teacher supply and demand, and (2) the role of technology and distance learning in vocational education. The current plan for examining these other key issues include:

***Teacher Supply and Demand***

NAVE plans to utilize findings from a study of the supply and demand for vocational education teachers that is currently being conducted by NCRVE. Complementing this research will be information gathered from the comparative case studies (described previously).

***Technology and Distance Learning***

Several efforts are currently underway to track the growth of distance learning programs of study, and to understand the instructional role of technology. NAVE plans to summarize this research as it relates to occupational training. How vocational curriculum responds to changes in commercial technology is a topic to be explored in the case studies.

## APPENDIX A

### NATIONAL ASSESSMENT OF VOCATIONAL EDUCATION
**Independent Advisory Council**

**Naomi Nightingale**
*(Panel Chair)*
*LA Metropolitan Transit Authority*

**Paul Cole**
*(Panel Co-Vice Chair)*
*New York State, AFL-CIO*

**Russ McCampbell**
*(Panel Co-Vice Chair) Missouri State Director of Vocational Education*

**Karl Anderson**
Saturn Corporation

**June Atkinson**
*North Carolina State Director of Vocational Education*

**John Bishop**
Cornell University

**Gene Bottoms**
Southern Regional Education Board

**Betsy Brand**
American Youth Policy Forum

**Jay Cummings**
*Assistant to Texas Commissioner of Education*

**Philip Day, Jr.**
*Chancellor*
*City College of San Francisco*

**James Folkening**
Postsecondary Services
Michigan Department of Education

**Stephen Hamilton**
Cornell University

**James Jacobs**
Macomb Community College

**Jack Jennings**
Institute for Educational Leadership

**Dale Kalkofen**
*Associate Superintendent for School Reform*
Memphis City Schools

**Chris King**
LBJ School
University of Texas at Austin

**JoAnn Kister**
*Ohio State Director of Vocational and Adult Education*

**Mark Milliron**
*Oracle Corporation*

**Katherine Oliver**
*Maryland State Superintendent of Career Technology and Adult Learning*

**Robert Runkle**
*Director*, Berks County Career and Technology Center

**Tony Sarmiento**
*AFL-CIO*

**Ellen O'Brien Saunders**
*Director*, Workforce Training and Education Board
Washington State